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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,025	09/19/2003	Reinhard Bruch		1402

7590  
Reinhard Bruch  
709 Putnam Drive  
Reno, NV 89503

12/16/2005

EXAMINER
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GEISEL, KARA E

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 12/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/668,025

Applicant(s)

BRUCH ET AL.

Examiner

Kara E. Geisel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION*****Oath/Declaration***

A new oath or declaration is required because of the reasons disclosed below. The wording of an oath or declaration cannot be amended. If the wording is not correct or if all of the required affirmations have not been made or if it has not been properly subscribed to, a new oath or declaration is required. The new oath or declaration must properly identify the application of which it is to form a part, preferably by application number and filing date in the body of the oath or declaration. See MPEP §§ 602.01 and 602.02.

It does not identify the mailing address of each inventor. A mailing address is an address at which an inventor customarily receives his or her mail and may be either a home or business address. The mailing address should include the ZIP Code designation. The mailing address may be provided in an application data sheet or a supplemental oath or declaration. See 37 CFR 1.63(c) and 37 CFR 1.76.

It does not identify the city and either state or foreign country of residence of each inventor. The residence information may be provided on either an application data sheet or supplemental oath or declaration.

***Specification***

The abstract is objected to because the length exceeds 150 words.

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

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The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

It is suggested that the sentences starting with "Until now..." and "The goal of the invention..." should be removed to help reduce the length.

#### *Claim Objections*

Claims 1-10 are objected to because of the following informalities: inconsistent wording.

In regards to claims 1-10, the claims are replete with inconsistent wording. For example, the preamble of claim 1 is "A scanning micromechanical monochromator...", where the preambles of the rest of the claims are "An ultra-compact micromirror spectrometer", "A micromirror spectrometer", and "A handheld micromirror spectrometer device". In claim 2, line 2, applicant talks about "the torsion element" wherein, in claim 1, which this claim depends it is disclosed as "torsion mirror".

Appropriate correction is required.

#### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

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In regards to claim 1, the elements, which go to make up the device, have been claimed twice. Furthermore, in the first recitation of the elements, are not organized and correlated in a manner as to present a complete operative device.

In regards to claim 2, the claim is in two sentences instead of 1. The phrase "preferably" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

In regards to claims 3-8, the claims are generally confusing and not understood. Clarification is required.

In regards to claim 7, a dependent claim must include every limitation of the parent claim. By replacing the torsion diffraction grating with a torsion mirror, you have not included this limitation from the parent claim.

#### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Stock et al. (DE 199 55 759 A1).

In regards to claim 1, Stock discloses a scanning micromechanical spectrometer (fig. 1) comprising a radiation source which delivers light to a sample, wherein the light from the sample is directed to the spectrometer (the beam going into 1 would be the light from the sample), coupled to an entrance slit (1) of the spectrometer, a parabolic or spherical mirror (3), which can be a achromatic lens (figs. 2-5) for focusing the light beam from the entrance slit, a dispersion device (4), which can be a controllable diffraction grating (figs. 2-5) for dispersing light from the

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parabolic or spherical mirror or achromatic lens, a micromirror (5) for receiving the diffracted light, an exit slit (2) which receives light from the micromirror, and can direct light to a detector (light from 2 can go to a detector), wherein the system can be monolithically created (column 4, lines 62-68).

In regards to claims 9-10, it would be up to the user to decide what the sample is that is to be analyzed.

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stock et al. (DE 199 55 759 A1) in view of Mikes (US Pub 2002-0126280).

In regards to claim 2, Stock discloses a scanning micromechanical spectrometer (fig. 1) but does not disclose that the slits are formed on the grating on its rotational axis. However, it is very well known in the art, that in order to reduce the number of optical elements and to make a

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system more compact, that one would combine the optical elements, in this case the grating and the slits.

For example, Mikes discloses a spectrometer comprising a diffraction grating (fig. 1, 12), entrance and exit slits (62, 42, 46) for sending light into and out of the spectrometer, and a parabolic mirror (16) for directing the light in the spectrometer to the grating and the exit slit. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the entrance and exit slits of Stock's device into the grating, in order to reduce the number of optical elements in the spectrometer, and to make the spectrometer more compact.

#### *Additional Prior Art*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art made of record is Tenhunen et al. (USPN 6,870,619), and Fateley et al. (US Pubs 2002/0057431).

Tenhunen discloses a scanning micromechanical spectrometer comprising a radiation source which delivers light to a sample, wherein the light from the sample is directed to the spectrometer and coupled to an entrance slit of the spectrometer, a parabolic or spherical mirror, for focusing the light beam from the entrance slit, a controllable diffraction grating for dispersing light from the parabolic or spherical mirror, a micromirror for receiving the diffracted light, and an exit slit which receives light from the micromirror, and can direct light to a detector.

Fateley discloses a scanning micromechanical spectrometer comprising a radiation source which delivers light to a sample, wherein the light from the sample is directed to the spectrometer and coupled to an entrance slit of the spectrometer, a parabolic or spherical mirror, for focusing the light beam from the entrance slit, a controllable diffraction grating for dispersing light from the parabolic or spherical mirror, a micromirror for receiving the diffracted light, and an exit slit which receives light from the micromirror, and can direct light to a detector.

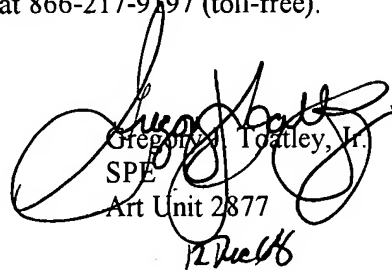
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*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kara E Geisel whose telephone number is 571 272 2416. The examiner can normally be reached on Monday through Friday, 8am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on 571 272 2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Gregory J. Toatley, Jr.  
SPE  
Art Unit 2877  
12 Dec 05

K.G.  
KEG  
December 9, 2005